

**In the Claims:**

1. (Currently amended) A method, comprising:

a client, implemented by a computer on a network, sending a lookup message to a space, wherein the lookup message specifies desired characteristics of documents stored within the space;

the client receiving a lookup response indicating identifiers of discovered documents within the space that, in addition to being stored in the space, match the desired characteristics;

the client obtaining a service advertisement from the space, where the service advertisement is a document expressed in a markup language and is one of ~~listed in the discovered documents listed in the lookup response~~, wherein the space comprises a network-accessible repository which stores a plurality of service advertisements expressed in the markup language, wherein each of the plurality of service advertisements comprises a Uniform Resource Identifier (URI) and a markup language schema for a respective service, wherein the URI specifies a network address at which the respective service may be accessed, and wherein the markup language schema defines a message interface for accessing the respective service; and

the client accessing the service according to the service advertisement, wherein said accessing the service comprises the client sending a first markup language message to the service at the URI specified in the service advertisement, wherein the first message is specified in the markup language schema.

2. (Previously presented) The method of claim 1, further comprising: the service

sending a second markup language message to the client in response to the service receiving the first markup language message, wherein the second markup language message is specified in the markup language schema.

3. (Previously presented) The method of claim 1, further comprising: invoking one or more functions of the service in response to the first markup language message.

4. (Canceled)

5. (Canceled)

6. (Previously presented) The method of claim 1, wherein the markup language comprises eXtensible Markup Language (XML).

7. (Original) The method of claim 1, wherein the URI comprises an Internet address.

8. (Previously presented) The method of claim 1, further comprising: the service publishing the service advertisement in the space.

9. (Previously presented) The method of claim 1, further comprising: the client accessing a lookup service to find the service advertisement in the space.

10. (Previously presented) The method of claim 1, further comprising: the client generating a message gate for accessing the service, wherein the message gate is generated according to the URI and the markup language schema in the service advertisement, and wherein said sending a first markup language message to the service comprises sending the message via the message gate.

11. (Currently amended) A system, comprising:

a client implemented by a computer;

a service, implemented by a computer, which is communicatively coupled to the client via a network; and

a space, implemented by a computer, which is communicatively coupled to the client via the network, wherein the space comprises a network-accessible repository which stores a plurality of service advertisements, wherein each service advertisement is a document expressed in a markup language, wherein the space stores a service advertisement for the service, wherein each of the plurality of service advertisements comprises a Uniform Resource Identifier (URI) and a markup language schema for a respective service, wherein the URI specifies a network address at which the respective service may be accessed, and wherein the markup language schema defines a message interface for accessing the respective service;

wherein the client is operable to:

send a lookup message to the space, wherein the lookup message specifies desired characteristics of documents stored within the space;

receive a lookup response indicating identifiers of discovered documents within the space that, in addition to being stored in the space, match the desired characteristics, wherein the service advertisement is one of the discovered documents listed in the lookup response;

obtain the service advertisement for the service, listed among the discovered documents, from the space; and

access the service according to the service advertisement, wherein, to access the service, the client is operable to send a first markup language message to the service at the URI specified in the service advertisement, and wherein the first message is specified in the markup language schema.

12. (Previously presented) The system of claim 11, wherein the service is operable to send a second markup language message to the client in response to the first markup language message, wherein the second markup language message is specified in the markup language schema.

13. (Previously presented) The system of claim 11, wherein one or more functions of the service are invoked in response to the first markup language message.

14. (Canceled)

15. (Canceled)

16. (Previously presented) The system of claim 11, wherein the markup language comprises eXtensible Markup Language (XML).

17. (Original) The system of claim 11, wherein the URI comprises an Internet address.

18. (Previously presented) The system of claim 11, wherein the service is operable to publish the service advertisement in the space.

19. (Previously presented) The system of claim 11, wherein the client is operable to access a lookup service to find the service advertisement in the space.

20. (Previously presented) The system of claim 11, wherein the client is operable to generate a gate for accessing the service, wherein the message gate is generated according to the URI and the markup language schema in the service advertisement, and wherein, to send a first markup language message to the service, the client is operable to send the message via the message gate.

21. (Currently amended) A non-transitory computer-readable storage medium storing program instructions that when executed by a computer cause the computer to implement:

a client sending a lookup message to a space,

wherein the lookup message is in a markup language and specifies in the mark up language desired characteristics of documents stored within the space;

the client receiving a lookup response message in the markup language, wherein the lookup response message indicates identifiers of discovered documents within the space that, in addition to being stored in the space, match the desired characteristics;

the client obtaining a service advertisement from the space, where the service advertisement is a document expressed in the markup language and is one of listed in the discovered documents listed in the lookup response message, wherein the space comprises a network-accessible repository which stores a plurality of service advertisements expressed in the markup language, wherein each of the plurality of service advertisements comprises a Uniform Resource Identifier (URI) and a markup language schema for a respective service, wherein the URI specifies a network address at which the respective service may be accessed, and wherein the markup language schema defines a message interface for accessing the respective service; and

the client accessing the service according to the service advertisement, wherein said accessing the service comprises the client sending a first markup language message to the service at the URI specified in the service advertisement, and wherein the first message is specified in the specified in the service advertisement schema.

22. (Previously presented) The non-transitory computer-readable storage medium of claim 21, wherein the program instructions when executed further cause a computer to implement the service sending a second markup language message to the client in response to the service receiving the first markup language message, wherein the second markup language message is specified in the markup language schema.

23. (Previously presented) The non-transitory computer-readable storage medium of claim 21, wherein the program instructions when executed further cause a computer to implement invoking one or more functions of the service in response to the first markup language message.

24. (Canceled)

25. (Canceled)

26. (Previously presented) The non-transitory computer-readable storage medium of claim 21, wherein the markup language comprises eXtensible Markup Language (XML).

27. (Previously presented) The non-transitory computer-readable storage medium of claim 21, wherein the URI comprises an Internet address.

28. (Previously presented) The non-transitory computer-readable storage medium of claim 21, wherein the program instructions when executed further cause a computer to implement the service publishing the service advertisement in the space.

29. (Previously presented) The non-transitory computer-readable storage medium of claim 21, wherein the program instructions when executed further cause the computer to implement the client accessing a lookup service to find the service advertisement in the space.

30. (Previously presented) The non-transitory computer-readable storage medium of claim 21, wherein the program instructions when executed further cause the a computer to implement the client generating a message gate for accessing the service, wherein the message gate is generated according to the URI and the markup language schema in the service advertisement, and wherein said sending a first markup language message to the service comprises sending the message via the message gate.